AQUAREAD
water monitoring instruments

The AQUAREAD PRODUCT RANGE

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AquaPlus Package

optical dissolved oxygen • conductivity • TDS • SSG • resistivity • salinity • temperature

Optical Dissolved oxygen water quality monitoring package

Combined optical dissolved oxygen, conductivity and temperature sensor for portable field use. Package comes complete with 3m cable, GPS meter and carry case

Why Optical?

Traditionally, DO measurement in portable field equipment has been done using membrane covered detectors known as Clark Cells. This type of cell suffers from problems including membrane fouling, calibration instability and worst of all, oxygen consumption. During measurement, a Clark Cell will consume oxygen making it necessary to have a constant flow of water over the cell.

Optical technology eliminates all these problems allowing high precision, membrane-free, long-term stability along with infrequent calibration and immunity to fouling by sulphides and other gases.

The Aquaread AquaPlus is the only Optical DO system that measures salinity directly. This allows for automatic salinity compensation giving you the highest accuracy in any type of water.

The Tech Behind AquaPlus

The Aquaread AquaPlus works on the principle of Dynamic Luminescence Quenching. A gas-permeable material known as a luminophore is excited with short bursts of blue light, which causes molecules in the luminophore to emit red photons. By measuring the delay of the returned red photons with respect to the blue excitation, the level of dissolved oxygen present can be determined.

AquaPlus Mechanical Specification

Protection Class	IP68 (permanent immersion)
Immersion Depth	Min 75mm. Max 100m**
Operating Temperature	-5˚C - +70˚C
Dimensions (L x Dia)	250mm x 24mm
Weight	400g

**100m submersion for period of 1 week, 30m submersion suitable for permanent deployment.

AquaPlus with the sleeve removed reveals the combined dissolved oxygen, conductivity & temperature sensors. The end cap is replaceable however you can expect more than 2 years life from one cap

AP-LITE Aquaprobe Package

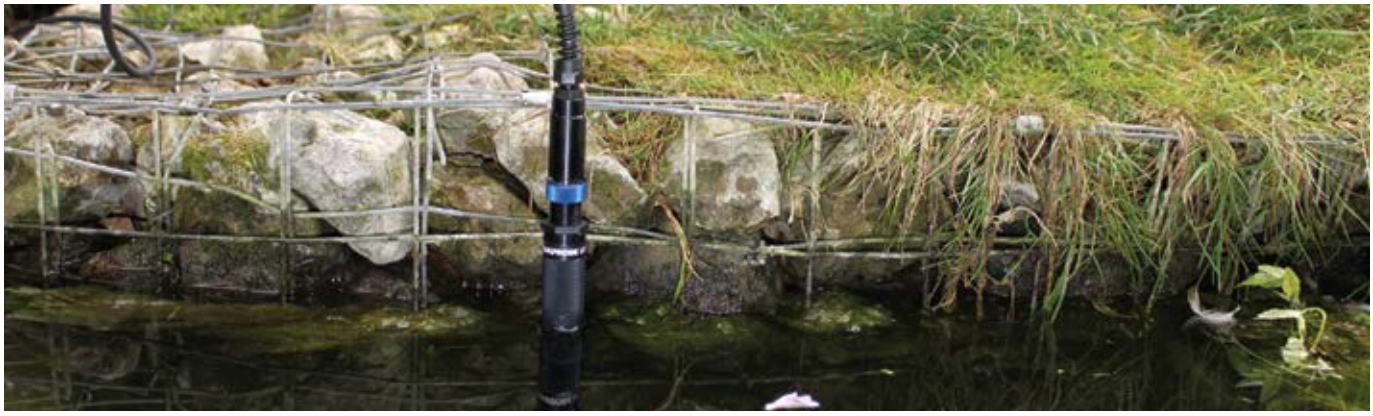
Choose one from eight different optical sensors for advanced single parameter monitoring

Single parameter water quality monitoring package

Simple, single parameter monitoring with the versatile, portable AP-LITE system

AP-LITE

The AP-LITE is a simple probe with a single optical socket. This socket is able to house any of our optical electrodes, including turbidity and chlorophyll. A temperature sensor is also included on the probe. The AP-LITE package includes our rugged 3m cable, our GPS Aquameter, a range of accessories and a rugged carry case.



The AP-LITE is commonly used with our sapphire lensed turbidity sensor, chlorophyll sensor or blue-green algae sensors. Whilst the package includes an Aquameter the AP-LITE can also be used with one of our AquaLoggers for unmanned turbidity, chlorophyll or blue-green algae monitoring.

AP-LITE Mechanical Specification

Protection Class	IP68 (permanent immersion)
Immersion Depth	Min 75mm. Max 100m* *
Operating Temperature	-5˚C - +70˚C
Dimensions (L x Dia)	250mm x 24mm
Weight	400g

* *100m submersion for period of 1 week, 30m submersion suitable for permanent deployment.

Screw in sensors make it easy to install the various sensors available

Choose from a range of optical sensors for use in the AP-LITE, see the full range in the specifications section

AP-700 / 800 Aquaprobe Package

pH • ORP • conductivity • TDS • SSG • resistivity • salinity • dissolved oxygen (DO) • temperature • turbidity

The cost effective, complete water quality monitoring package

Affordable multiparameter water quality testing packages that cover all the basics

AP-700 vs 800

The AP-700

pH • ORP • conductivity • TDS • SSG • Res • salinity • dissolved oxygen • temperature

The AP-800

pH • ORP • conductivity • TDS • SSG • Res • salinity • dissolved oxygen • temperature • TURBIDITY

See back pages for Sensor Specifications

"The AP-700 and the AP-800 Aquaprobes have a very similar build to the more advanced AP-2000, the fitted sensors even have the same high accuracy"

These packages are ideal if you are new to water quality monitoring. They will provide you with measurements for all of the commonly monitored parameters.

Both Aquaprobes come fitted with pH/ORP sensor, a conductivity sensor a dissolved oxygen sensor and a temperature sensor. The AP-800 also features our sapphire lensed turbidity sensor.

A 3m cable comes hard wired to the probe, extension cables are available if longer lengths are required; 10, 20 and 30m as standard.

Aquaprobe Facts

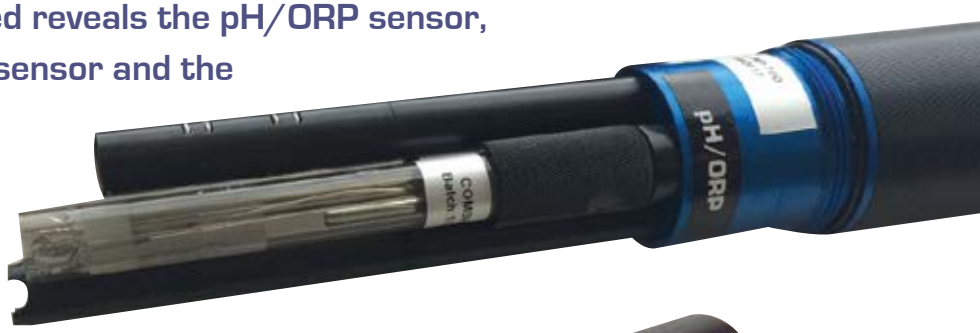
- *Every sensor on the 700/800 Aquaprobe is replaceable, pH/ORP sensors are user replaceable whereas the conductivity and dissolved oxygen sensors are factory replaceable*
- *Both the AP-700 and AP-800 can be supplied with optical DO and depth sensors on request*
- *The turbidity sensor on the AP-800 can be replaced with any of our optical or ISE sensors*

AP-700 / 800 Aquaprobe Package

pH • ORP • conductivity • TDS • SSG • resistivity • salinity • dissolved oxygen (DO) • temperature • turbidity

The cost effective, complete water quality monitoring package

AP-700 with the sleeve removed reveals the pH/ORP sensor, the conductivity/temperature sensor and the dissolved oxygen sensor



Improved rugged galvanic DO sensor

Both the AP-700 and AP-800 feature the same new rugged DO sensor. The sensor tip is made from a solid zinc block meaning you can easily polish and clean the sensor to extend its life

AP-700/800 both feature a newly designed rugged galvanic DO sensor tip.

Designed to be used with the GPS Aquameter

Both Packages come with the GPS Aquameter for data collection, live readings and sensor calibration

AP-700 /800 Mechanical Specification

Protection Class	IP68 (permanent immersion)
Immersion Depth	Min 75mm. Max 50m*
Operating Temperature	-5˚C - +70˚C
Dimensions (L x Dia)	290mm x 42mm
Weight	700g

*50m submersion for period of 1 week, 10m submersion suitable for permanent deployment.

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AP-2000 / AP-2000-D Aquaprobe Package

pH • ORP • conductivity • TDS • SSG • resistivity • salinity
• optical dissolved oxygen • temperature • depth

Measures more parameters than any other 2" diameter multiparameter probe

Take your portable water quality monitoring to the next level by using the advanced AP-2000 multiparameter probe

AP-2000 / AP-2000-D

The AP-2000 comes pre-loaded with a selection of sensors:

pH • ORP • conductivity • TDS • SSG • Res • salinity
• optical dissolved oxygen • temperature • depth (AP-2000-D Only)

See back pages for Sensor Specifications

Package comes complete with Aquaprobe, GPS Aquameter, 3m cable, rugged case and accessories. Various cable lengths are available; 10, 20 and 30m as standard.

There are an additional 2 ports allowing you to add more:

Aux port 1 can be fitted with either an optical sensor or an ion selective sensor (ISE)

Aux port 2 can be fitted with only an ISE sensor

ISE Electrode Options:

Ammonium / Ammonia,
Chloride,
Nitrate,
Fluoride,
Calcium.

Optical Electrode Options:

Turbidity,
Chlorophyll,
Blue Green Algae,
Rhodamine,
Fluorescein,
Refined Oil,
CDOM / FDOM.

Aquaprobe Facts

- *The IP68 rated Aquaprobe is constructed of marine grade aluminium and is designed for use in fresh, marine and waste-water applications.*

- *Its metal construction and weight reflect the superior build quality of the instrument.*

AP-2000 / AP-2000-D Aquaprobe Package

pH • ORP • conductivity • TDS • SSG • resistivity • salinity • optical dissolved oxygen • temperature • depth

Measures more parameters than any other 2" diameter multiparameter probe

GPS Aquameter

Every Aquaprobe package comes with a GPS Aquameter for live readings, automatic data recording and probe calibration

"Record the location of every data set using the GPS Aquameter."

3m Cable with AquaConn Connectors

The AP-2000 is fitted with our robust AquaConn metal connectors, each package comes with a 3m cable with AquaConn connectors at each end and Kevlar strands running the length of the cable for extra tensile strength

Flowcell available for every Aquaprobe

Every water quality testing probe has its own flowcell allowing you to bring sample water straight to the probe. This is ideal for ground water monitoring and some process applications

Optical Dissolved Oxygen (DO) Sensor

The AP-2000 has a factory installed and fully calibrated optical DO sensor. The sensor requires much less maintenance than the galvanic version, gives more stable readings and requires cap changes only once every 2 years

AP-2000/2000-D Mechanical Specification

Protection Class	IP68 (permanent immersion)
Immersion Depth	Min 75mm. Max 100m*
Operating Temperature	-5˚C - +70˚C
Dimensions (L x Dia)	290mm x 42mm
Weight	700g

*100m submersion for period of 1 week, 30m submersion suitable for permanent deployment, depth measurement up to 60m.

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AP-5000 Aquaprobe Package

pH • ORP • conductivity • TDS • SSG • resistivity • salinity
• optical dissolved oxygen • temperature • depth

Add even more sensors to your portable water quality monitoring package

Maximise your water quality data collection using the extra sensor ports of the portable AP-5000 Aquaprobe

AP-5000 Package

The AP-5000 comes pre-loaded with a selection of sensors:

pH • ORP • conductivity • TDS • SSG • Res • salinity
• optical dissolved oxygen • temperature • depth

See back pages for Sensor Specifications

Package comes complete with Aquaprobe, GPS Aquameter, 3m cable, rugged case and accessories. Various cable lengths are available; 10, 20 and 30m as standard.

There are an additional 4 ports allowing you to add more:

All 4 Aux ports can be fitted with either an optical sensor or an ISE from the list below

ISE Electrode Options:

Ammonium,
Ammonia,
Chloride,
Nitrate,
Fluoride,
Calcium.

Optical Electrode Options:

Turbidity,
Chlorophyll,
Blue Green Algae,
Rhodamine,
Fluorescein,
Refined Oil,
CDOM / FDOM.

Aquaprobe Facts

- *All Aquaprobes are completely filled with resin protecting the circuitry and processors within the probe. The resin also make the probe completely water tight ensuring no leaks even at depth.*
- *The weight of the Aquaprobe means no external weights are required to allow the probe to drop below the surface.*

AP-5000 Aquaprobe Package

pH • ORP • conductivity • TDS • SSG • resistivity • salinity • optical dissolved oxygen • temperature • depth

Add even more sensors to your portable water quality monitoring package

AP-5000 Package Contents

Full range of accessories in every package

Every Aquaprobe package comes with a range of relevant accessories including a 3m cable, calibration vessels, USB cable to connect the GPS Aquameter to your PC, RapidCal calibration solution and batteries

AP-5000 can house more than one optical sensor

The AP-5000 has one major advantage over the AP-2000, it can house more than one optical sensor in it's unrestricted Aux ports. Many applications require both turbidity and chlorophyll monitoring at the same time, this is made possible using the AP-5000. Seen to the left is the AP-5000 fully loaded with 2 ISE and 2 optical sensors connected

The hidden depth sensor

With all of the sensors removed, in the image to the right, the depth sensor hole can be seen in the centre of the probe body

AP-5000 Mechanical Specification

Protection Class	IP68 (permanent immersion)
Immersion Depth	Min 75mm. Max 100m*
Operating Temperature	-5°C - +70°C
Dimensions (L x Dia)	340mm x 55mm
Weight	950g

*100m submersion for period of 1 week, 30m submersion suitable for permanent deployment, depth measurement up to 60m.

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AP-7000 Aquaprobe Package

pH • ORP • conductivity • TDS • SSG • resistivity • salinity
• optical dissolved oxygen • temperature • depth

Long term monitoring made easy with the AP-7000's effective self cleaning system

Record up to 17 water quality parameters
over long periods of unmanned monitoring using the AP-7000

AP-7000 Package

The AP-7000 comes pre-loaded with a selection of sensors:

pH • ORP • conductivity • TDS • SSG • Res • salinity
• optical dissolved oxygen • temperature • depth

See back pages for Sensor Specifications

Package comes complete with Aquaprobe, GPS Aquameter, 3m cable
and accessories. Various cable lengths are available;
10, 20 and 30m as standard

There are an additional 6 ports allowing you to add much more:

All 6 Aux ports can be fitted with either an
optical sensor or an ISE from the list below

ISE Electrode Options:

Ammonium / Ammonia,
Chloride,
Nitrate,
Fluoride,
Calcium.

Optical Electrode Options:

Turbidity,
Chlorophyll,
Blue Green Algae,
Rhodamine,
Fluorescein,
Refined Oil,
CDOM / FDOM.

Aquaprobe PC KIT available

You are now able to connect your Aquaprobe direct to your PC Via the Aquaprobe PC-KIT's USB interface. Using the provided software you can take live readings, log data direct to your hard drive and calibrate probes with fully recorded calibration reports

AP-7000 Aquaprobe Package

pH • ORP • conductivity • TDS • SSG • resistivity • salinity • optical dissolved oxygen • temperature • depth

Long term monitoring made easy with the AP-7000's effective self cleaning system

AP-7000 Self Cleaning System

Easy and cost effective to maintain

The self cleaning system on the AP-7000 cleans every sensor installed on the probe including pH and conductivity. Over time the brushes can become fouled particularly during long deployments so the wiper arm is designed to be easily removed for quick and simple brush replacement:

Top right: Remove the pin from the top of the cleaning arm
Right: Slide out the cleaning arm
Bottom right: slide out the brushes and quickly replace

Various Logging options

See next page for more details on logging options

GPS Aquameter

AquaLogger-7000

BlackBox

AP-7000 Mechanical Specification

Protection Class	IP68 (permanent immersion)
Immersion Depth	Min 75mm. max 100m*
Operating Temperature	-5°C - +70°C
Dimensions (L x Dia)	440mm x 77mm
Weight	1350g

*100m submersion for period of 1 week, 30m submersion suitable for permanent deployment, depth measurement up to 100m.

Aquaprobe Logging Options

GPS Aquameter • AquaLogger • BlackBox • AquaTel Telemetry

Many different logging options from spot testing to long term monitoring

Whatever your logging requirements we offer many options including spot testing, short to medium unmanned logging and data delivery using telemetry

GPS Aquameter

The GPS Aquameter is a hand held device with a display for live data viewing and data recording. As one of our flagship products it is included in every Aquaprobe package. It is designed to be very simple to use and to make your job easier in the field

All currently measured data can be recorded by pressing the M+ button, as you record your dataset the Aquameter uses its built in GPS receiver to record the precise location that the measurements were taken from, with data being viewable in Google Earth

GPS Aquameter Mechanical Specification

Dimensions (L x Dia)	90mm x 180mm x 39mm
Weight	425g
Display	80 character backlit LCD
Data Memory	1110 full sets inc GLP data
GPS Receiver	12 channel with int antenna
GPS Accuracy	+/- 10m in all 3 dimensions
Atmospheric Pressure	150mb – 1150mb Accuracy +/- 1mb
Interface	USB (cable provided)
Power Supply	5 x AA cells. Alkaline or Ni-MH rechargeable
Battery Life	Alkaline > 20 hours Ni-MH > 40 hours
Operating Temperature	-20°C to +70 C°
Protection Class	IP67

Aquaprobe Logging Options

GPS Aquameter • AquaLogger • BlackBox • AquaTel Telemetry

Many different logging options from spot testing to long term monitoring

AquaLogger

The AquaLogger is designed to be robust enough to handle unmanned deployments in all kinds of conditions. There are 2 types of AquaLogger available:

- **AquaLogger-2000:** for use with the AquaPlus, AP-LITE, AP-700, AP-800 and AP-2000 probes
- **AquaLogger-7000:** for use with the AP-5000 and AP-7000 Aquaprobes

AquaLogger Mechanical Specification

Dimensions (L x Dia)	AquaLogger 2000: 44mm x 250mm AquaLogger 7000: 77mm x 250mm
Weight	AquaLogger 2000: 420g AquaLogger 7000: 1500g
Data Memory	15,000 full sets inc GLP data
Atmospheric Pressure	150mb – 1150mb Accuracy +/- 1mb
Interface	USB (cable provided)
Power Supply	AquaLogger 2000: 2x Alk C cells AquaLogger 7000: 6x Alk C cells + 2x AAA cells
Battery Life	Dependent upon logging rate and temperature.
Operating Temperature	-20°C to +70°C
Protection Class	IP67

Every AquaLogger comes complete with LoggerLink PC software and USB data cable so that you can set up your logging regime at your desk. Logging is initiated when the probe is connected

BlackBox

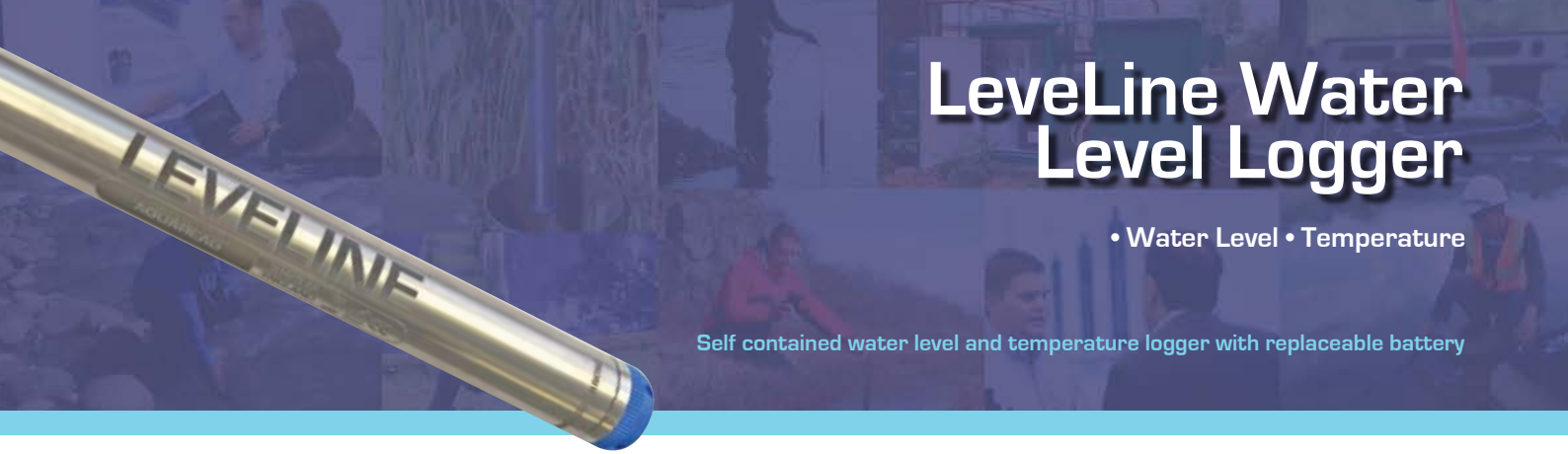
The BlackBox is a data converter that outputs our probes signals to industry standard SDI-12 or Modbus (RS485) protocols.

BlackBox Mechanical Specification

Input Voltage	10V – 14V DC
Input Current (awake)	~ 40mA (AP-Lite / AquaPlus / AP-700 - AP-2000) ~ 100mA (AP-5000 or AP-7000 attached) ~ 500mA (AP-7000 during self cleaning cycle)
Input Current (asleep)	< 100µA (includes current drawn by attached Probe)
Protection Class	IP67
Dimensions	140mm x 65mm x 30mm
Weight	400g
Connections	Probe socket on flying lead & 1M screened power/data cable
Fixing	Aluminium flange with four 5mm mounting holes
Digital Interface	User selectable between SDI-12 & Modbus (RS485)
Update rate	All data is refreshed every 2 seconds

The BlackBox features an internal pressure sensor to detect changes in atmospheric pressure

All data output by the BlackBox is therefore fully compensated ready to be handled/displayed by the chosen third party hardware



LeveLine Water Level Logger

• Water Level • Temperature

Self contained water level and temperature logger with replaceable battery

The LeveLine is a self-contained data-logging device that records water level and temperature continuously during its deployment. It features a highly accurate pressure sensor and a temperature thermistor, which are powered for up to 10 years by the internal 3.6V lithium battery.

Discover LeveLine

Explore the LeveLine's key features:

Set up Options
Use PC or GPS LeveLine Meter
Planned start date / duration
Logging rate
Event trigger levels & rate
GPS deployment coordinates

Corrosion Resistant
Rugged titanium body
for corrosion resistance

Market Leading Internals
500,000 data set logging memory
10 recordings per second
Fastest logging rate

Tough
Delrin Nose Cone

High Accuracy
Highly accurate pressure sensor
Various depth ratings available
up to 200m

Comms
USB cable
SDI-12 / Modbus direct output
QuickDeploy Key to start logger
GPS LeveLine Meter connection

Telemetry available
Discreet telemetry system
available for concealed deployments

Years of Battery Life
Internal lithium battery for up to 10 years operation
Battery is replaceable when expired
Not enough?
Then use external 6-30v power supply from batteries or solar panel

Capture the water level data as quickly as 10 times per second and store up to 500,000 data records on the instrument's built-in memory. All this technology is neatly sealed within a small, corrosion resistant, titanium housing (22 x 186mm) that can be deployed to measure either absolute pressure (ABS, non vented) or gauge pressure (GAUGE, vented) to depths of up to 200m.

See back pages for Sensor Specifications

QuickDeploy Key

Simply plug the QuickDeploy key into the logger's connector as the unit is deployed to:

- **Zero the depth sensor to measure absolute depth from the start**
  No need for any data correction during the analysis stages after the deployment saving you time and simplifying the analysis process

- **Initiate your pre-programmed logging scheme at the exact instant of deployment and check the battery and memory levels are ok**
  Use the LED indicator as a final sanity check for both battery and memory it could save you from a costly failed deployment

LeveLine Water Level Logger

• Water Level • Temperature

Self contained water level and temperature logger with replaceable battery

GPS LeveLine Meter

Embed the LeveLine's GPS Coordinates using the GPS LeveLine Meter

The hand-held GPS LeveLine Meter takes the features of the QuickDeploy key and builds on them:

- Embed the GPS coordinates in the LeveLine's memory as it is deployed, so that it appears as part of the dataset upon retrieval
- Download data from multiple LeveLine loggers
- Full on-site logger set up, data retrieval / storage
- Make deployment changes in the field
- View live level data; ideal for pumping situations
- Measure barometric air pressure and add a salinity value for auto compensation

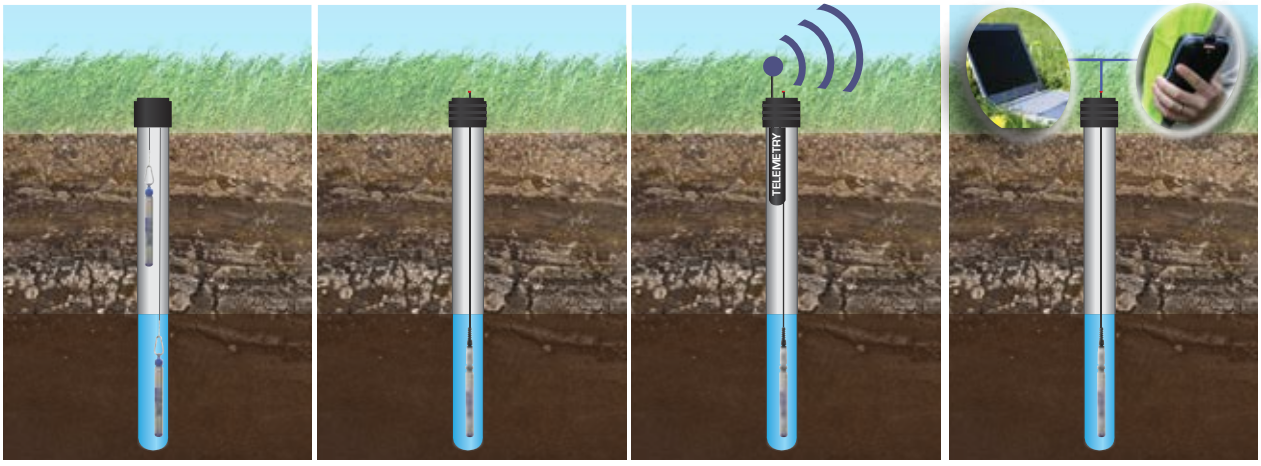
See exactly where the LeveLine logger came from, on a map with the completely unique GPS embedding feature

There are various other accessories available for the Leveline such as desiccant housings for use with vented cables and special cable adapters allowing direct connection to telemetry devices

LeveLine Deployment Examples

Many deployment options available helping you achieve the most cost effective deployment

ABSOLUTE GAUGE TELEMETRY REALTIME



LeveLine Early Warning System (EWS) and LeveLine-Mini

• Water Level • Temperature • Alerts • Remote data capture

Simple SDI-12 / Modbus water level and temperature sensor combined with a secure and subtle early warning system that automatically alerts on rising water levels

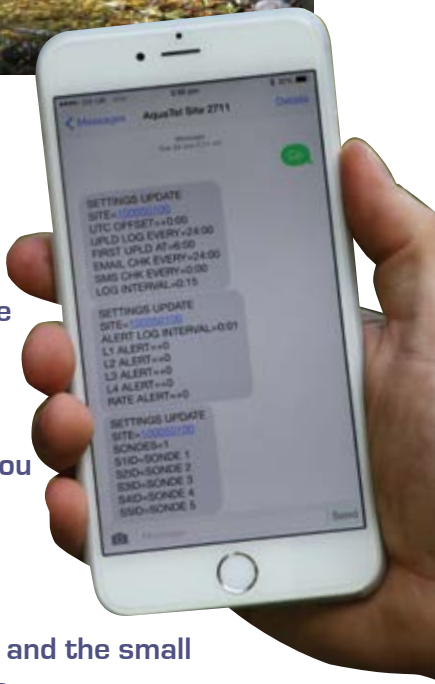
The LeveLine-EWS system is an automated alert system that will notify you of rising water levels any time of the day via SMS and email messaging, giving you vital time to safeguard your assets that may be at risk from flooding

LeveLine-EWS deployed along a shallow riverside

LeveLine-EWS

This cost effective and extremely simple system requires no regular maintenance and no annual subscriptions. The water level sensor measures changes in water level and temperature and the telemetry device will send SMS / email alerts when preset alert levels are reached.

You can also send the device an SMS message requesting the current level or configuration settings and receive a reply straight away, meaning you can check the level at any time of the day or night for added peace of mind.



EWS Features

- System consists of the AquaTel telemetry unit and the small LeveLine-Mini suspended on a 3m rugged cable.
- The AquaTel system is held securely to the mounting point using a metal bracket - the system is tamper proof.
- Aquaread offer an installation and set up service that includes all fixings and tubing, to ensure the systems is set up effectively.
- Full training can be provided to key contacts allowing them to maintain the system and to add new contacts for alerts etc.

LeveLine Early Warning System (EWS) and LeveLine-Mini

• Water Level • Temperature • Alerts • Remote data capture

"Flood prevention may not be possible but with an early flood warning system you can alert your household / community / business of rising water levels giving you the chance to protect your assets from flood damage."

LeveLine-Mini

The LeveLine-Mini features the same great specification as its larger counterpart the LeveLine. (see back pages for Sensor Specifications) This mini water level and temperature sensor is made from high quality stainless steel and is the same diameter at 22mm. It outputs directly in SDI-12 or Modbus (RS-485) meaning you can connect it to any SDI-12 ready logging device as well as our AquaTel system.

It has no internal power or memory, it's simply a sensor that will send data to your chosen logging device.

LeveLine-Mini Features:

- High quality stainless steel body
- Features a Delrin nose cone
- Uses the same Piezoresistive pressure sensor found in the LeveLine for highest accuracy
- Impressive accuracy of 0.1% FS
- Sensor can log as fast as 10 times per second
- Cable is hard wired into the sensor, various lengths available to suit every deployment
- SDI-12 / Modbus output as standard
- Sensors come with a 2 year warranty

LeveLine & LeveLine-Mini Mechanical Specification

	LeveLine (Gauge & Abs)	LeveLine-Mini
Dimensions (L x Dia)	186 x 22.2 mm	87 x 22.2mm
Material	Titanium	Stainless Steel
Memory and battery	Yes	No
Output options	SDI-12, Modbus, Proprietary	SDI-12, Modbus, Proprietary

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AquaTel Telemetry System

3G, GPRS telemetry device with SMS and email communications

No remote server means no annual subscriptions, you Own Your Data

The AquaTel unit is a logging and telemetry device with a built in air pressure sensor that is designed to interface to a variety of measuring devices to provide remote control, data logging and data retrieval via the mobile phone networks. The device works seamlessly with all Aquaprobes and LeveLine measuring instruments along with up to 5 third party SDI-12 sensors.

Why Choose AquaTel?

Because with AquaTel there are no annual subscriptions meaning the only recurring cost is the minimal cost to send data and SMS via the mobile networks.

Because the data is sent directly to you, it is not stored on a server owned by someone else potentially in a different country meaning you truly do Own Your Data.

Because its easy to operate, just send it an SMS message and get instant readings on all parameters being measured or wait for the daily Email containing the days full dataset.

Because it is easy to securely install in the field with the optional mounting bracket. You can be sure you have a good connection to the mobile network using the internal LED system giving indication of signal strength or by using the optional internal display screen.

AquaTel Features

Simple but secure bracket holds AquaTel unit in place. All screw fixings on the AquaTel are hidden when fitted in the bracket.

- Tamper proof housing with secure wall mountable bracket available
- Small subtle size 90 x 90 x 160mm
- Powered by internal Lithium batteries or an external 12v supply as standard
- Built in pressure sensor for barometric compensation of water quality and water level parameters
- Can be used with all Aquaprobes and all LeveLine instruments
- Can be used with up to 5 third party SDI-12 measuring devices
- No annual subscriptions required, data is sent direct via SMS or Email
- Internal memory to store logged data between uploads
- Configurable alarm settings that lead to SMS or Email notifications direct from the device
- Communicate directly with the unit via pre-defined SMS or Email commands

AquaTel Telemetry System

3G, GPRS telemetry device with SMS and email communications

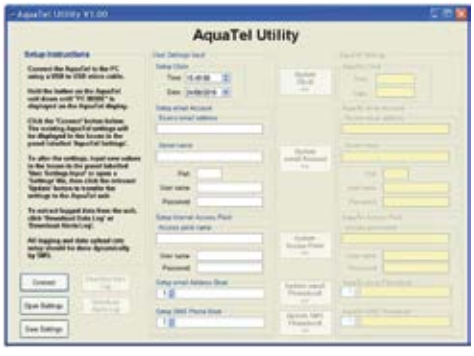
No remote server means no annual subscriptions, you Own Your Data

AquaTel Telemetry System Specification

Power Supply					
Protection	Power reverse polarity protection				
Input Range	Internally powered by 2 Lithiun D cells or 6 - 14VDC external				
Type of Power	Battery or external supply				
Power Consumption *	Sleep mode		Standby mode		Send mode
	360 uW	100 uA @ 3.6 Volts	12 mW	3.5 mA @3.6 Volts	~1 Watt ~ 300 mA @ 3.6 Volts
General Environmer					
Temperature	Operating: -40 ~ + 70 °C; Storage -40 ~ +85 °C				
Humidity	5 ~ 100 % RH				
IP Protection	IP 65				
Operation					
Battery life	up to 5 years; consult user manual for more information				
Configuration Programming	Via GPRS (SMS / Email) or PC software				
Data Retrieval	Automatic via GPRS (Email / FTP / Native protocol) Via USB-Connection by means of a Computer (Windows)				
Alarming	On pre-defined thresholds and rate of change of measurements; Via SMS / Email				
PowerSwitch	Internal voltage converter for supplying remote sensors				
System					
Watchdog	Yes				
RTC(Real Time Clock)	Yes, internally calibrated; accuracy < 100 ppm; Battery Backuped				
Memory	64Mb				
Pressure sensor	Yes				
Temperature sensor	Yes				
Power Sensor	Yes, Monitors power consumption, rest-capacity of battery				
Expansion Bus	One, for optional modules** Extra I/O, future functionality				
RS485 port	Yes				
Sample Frequency	1 reading per second				
Datalog Frequency	1 reading per minute				
Display	Optional LCD Module**				
Rohs Compliant	Yes				
Communication Ports					
Serial Data	RS485				
Serial Data	SDI-12				
Expansion port	Optional RS232 for external modem**				
3G / GPRS / GSM modem					
Frequency Range	Quad Band EGSM 850 / 900 / 1800 / 1900 MHz				
Capabilities	3G / GPRS / GSM / FTP / EMAIL / SMS				
Dimensions					
D x W x H	90 x 90 x 160mm				
Weight					
Nett Weight	650g				

* The Power consumption in sleep mode is when Datalogger is idle, and no tasks are performing. Only the RTC is running
** LCD display / RS232 interface option sold together as a single module

AquaTel Set up Utility



The AquaTel Set up screen allows you to set up the following parameters:

- The AquaTel unit's real time clock
- An email account for data uploads
- A mobile internet access point
- Multiple contact email addresses
- Multiple contact SMS numbers

In addition, the software allows you to download logged data and save it to a file on your PC.

The AquaStation

Remote water quality monitoring station with auto cleaning and calibration

Auto cleaning and auto calibration means fewer site visits - can you reduce your carbon footprint?

Every AquaStation is custom made depending on the nature and location of your deployment. There are various options in terms of pumping sample into the system for test, how many calibration vessels you require, how many sensors you require and various power options. Please contact us with your exact requirements for advice and a custom quote.

The AQUASTATION

Monitor water quality in remote areas with even fewer site visits

The AquaStation can independently

- Take test samples using the integrated AP-7000
- Clean all water quality sensors installed on the AP-7000
- Calibrate 4 key parameters
- Self powered (solar/wind)
- Send data via GPRS /3G for on-line access
- Raise alarms if alarm conditions are met

These key features allow this data collecting station to run without human interaction for much longer than previously possible thanks to the novel auto calibration feature.

Aquaread Software

All Aquaread software is available for download from the dedicated software section on our website

Simple easy to use software for use with our various logging options

All Software provided

Every Aquaread product that requires PC software comes with a USB data cable, software is available to download from our web site at www.aquaread.com/software-downloads/

GPS Aquameter - AquaLink
AquaPlus Meter - OxiLink

AquaLink / OxiLink Features

- Simple data download via button
- Tick and un-tick datasets to customise your outputs
- Output a text report for all highlighted data
- Output data as a CSV file that you can open in Excel
- Output data as a .KML file for use in Google Earth

AquaLogger - LoggerLink

LoggerLink Features

- Simple data download
- Export data as a full report or save file to your PC
- Set up the logging regime and event triggers
- Upload settings back to the AquaLogger
- Check available memory and battery life

LeveLine - LeveLink

LeveLink Features

- Set up the logging regime including start date and duration
- Import data from a Baro-logger
- Import recorded data from a LeveLine
- Produce fully compensated data
- View recorded data as a graph

Water Quality Specifications

Standard Parameters

Dissolved Oxygen	Range	0 – 500.0% / 0 – 50.00 mg/L
	Resolution	0.1% / 0.01mg/L
	Accuracy	0 - 200%: ± 1% of reading. 200% - 500%: ± 10%
Depth AP-2000/ AP-5000	Range	± 0 – 60.00 m
	Resolution	1cm
	Accuracy	± 0.5% FS
Depth AP-7000	Range	± 0 – 99.99 m
	Resolution	1cm
	Accuracy	± 0.2% FS
Conductivity (EC)	Range	0 – 200 mS/cm (0 - 200,000 µS/cm)
	Resolution	3 Auto-range scales: 0 – 9999 µS/cm, 10.00 – 99.99 mS/cm, 100.0 – 200.0mS/cm
	Accuracy	± 1% of reading or ± 1µS/cm if greater
TDS*	Range	0 – 100,000 mg/L (ppm)
	Resolution	2 Auto-range scales: 0 – 9999mg/L, 10.00 – 100.00g/L
	Accuracy	± 1% of reading or ± 1mg/L if greater
Resistivity*	Range	5 Ω • cm – 1 MΩ • cm
	Resolution	2 Auto-range scales: 5 – 9999 Ω • cm, 10.0 – 1000.0 KΩ • cm
	Accuracy	± 1% of reading or ± 1 Ω • cm if greater
Salinity*	Range	0 – 70 PSU / 0 – 70.00 ppt (g/Kg)
	Resolution	0.01 PSU / 0.01 ppt
	Accuracy	± 1% of reading or ± 0.1 unit if greater
Seawater Specific Gravity*	Range	0 – 50 σt
	Resolution	0.1 σt
	Accuracy	± 1.0 σt
pH	Range	0 – 14 pH / ± 625mV
	Resolution	0.01 pH / ± 0.1mV
	Accuracy	± 0.1 pH / ± 5mV
ORP	Range	± 2000mV
	Resolution	0.1mV
	Accuracy	± 5mV
Temperature (non freezing)	Range	-5°C – +50°C (23°F – 122°F)
	Resolution	0.01°C / 0.1°F
	Accuracy	± 0.5 °C

* Readings calculated from EC and temperature electrode values

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Ammonium	Range	0 – 9,000mg/L (ppm)
	Resolution	2 Auto-range scales: 0.00 - 99.99 mg/L, 100.0 – 8,999.9 mg/L
	Accuracy	± 10% of reading or 2ppm (whichever is greater)
Ammonia†	Range	0 – 9,000mg/L (ppm)
	Resolution	2 Auto-range scales: 0.00 - 99.99 mg/L, 100.0 – 8,999.9 mg/L
	Accuracy	± 10% of reading or 2ppm (whichever is greater)
Chloride	Range	0 – 20,000mg/L (ppm)
	Resolution	2 Auto-range scales: 0.00 - 99.99 mg/L, 100.0 – 19,999.9 mg/L
	Accuracy	± 10% of reading or 2ppm (whichever is greater)
Fluoride	Range	0 – 1,000mg/L (ppm)
	Resolution	2 Auto-range scales: 0.00 - 99.99 mg/L, 100.0 – 999.9 mg/L
	Accuracy	± 10% of reading or 2ppm (whichever is greater)
Nitrate	Range	0 – 30,000mg/L (ppm)
	Resolution	2 Auto-range scales: 0.00 - 99.99 mg/L, 100.0 – 29,999.9 mg/L
	Accuracy	± 10% of reading or 2ppm (whichever is greater)
Calcium	Range	0 – 2,000mg/L (ppm)
	Resolution	2 Auto-range scales: 0.00 - 99.99 mg/L, 100.0 – 1,999.9 mg/L
	Accuracy	± 10% of reading or 2ppm (whichever is greater)

† Ammonium electrode required. Readings calculated from ammonium, pH and temperature values.

Optical

Turbidity	Range	0 – 3000 NTU
	Resolution	2 Auto-range scales: 0.0 - 99.9 NTU, 100 - 3000 NTU
	Accuracy	± 5% of auto-ranged scale
Chlorophyll	Range	0 – 500.0 µg/L (ppb)
	Resolution	2 Auto-range scales: 0.00 - 99.99 µg/L, 100.0 - 500.0 µg/L
	Repeatability	± 5% of reading
Phycocyanin (freshwater BGA)	Range	0 – 300,000 cells/mL
	Resolution	1 cell/mL
	Repeatability	± 10% of reading
Phycerythrin (marine BGA)	Range	200 cells/mL
	Resolution	1 cell/mL
	Repeatability	± 10% of reading
Rhodamine WT Dye	Range	0 – 500 µg/L (ppb)
	Resolution	2 Auto-range scales: 0.00 - 99.99 µg/L, 100.0 - 500.0 µg/L
	Accuracy	± 5% of reading
Fluorescein Dye	Range	0 – 500 µg/L (ppb)
	Resolution	2 Auto-range scales: 0.00 - 99.99 µg/L, 100.0 - 500.0 µg/L
	Accuracy	± 5% of reading
Refined Oil	Range	0 – 10,000 µg/L (ppb) (Napthalene)
	Resolution	0.1 µg/L
	Repeatability	± 10% of reading
CDOM / FDOM	Range	0 – 20,000 µg/L (ppb) (Quinine Sulphate)
	Resolution	2 Auto-range scales: 0.0 – 9,999.9 µg/L, 10,000 – 20,000 µg/L
	Repeatability	± 10% of reading

Water Level Specifications

		LEVELINE (Abs & Gauge)	LEVELINE - BARO	LEVELINE- MINI
General	Temperature ranges (non freezing)	Operational: -20-80° C (-4-176° F) Storage: -40-80° C (-40-176° F) Compensated: -20-80° C (-4-176° F)	Operational: -20-80° C (-4-176° F) Storage: -40-80° C (-40-176° F) Compensated: -20-80° C (-4-176° F)	Operational: -20-80° C (-4-176° F) Storage: -40-80° C (-40-176° F) Compensated: -20-80° C (-4-176° F)
	Diameter	22.2mm (0.875 in)	22.2mm (0.875 in)	22.2mm (0.875 in)
	Length	186mm (7.32 in)	186mm (7.32 in)	87mm (3.43 in)
	Weight	150g (5.3oz)	160g (5.6oz)	120g (4.2oz)
	Materials	Titanium body, Delrin nose cone	Stainless Steel body, Delrin nose cone	Stainless Steel body, Delrin nose cone
	Output options	Modbus/RS485, SDI-12, Aquaread proprietary	Modbus/RS485, SDI-12, Aquaread proprietary	Modbus/RS485, SDI-12, Aquaread proprietary
	Battery type & life	3.6V lithium; 10 years or 5M readings	3.6V lithium; 10 years or 5M readings	N/A
	External power	6 - 30 VDC	6 - 30 VDC	6 - 30 VDC
Memory	Size	8.0 MB	2.0 MB	N/A
	Data Records	500,000	150,000	N/A
	Log types	Linear, Event & User-Selectable Schedule with Future Start, Future Stop, Deploy Start and Real Time View	Linear, Event & User-Selectable Schedule with Future Start, Future Stop, Deploy Start and Real Time View	N/A
	Fastest logging rate & Modbus rate	10 per second	1 per minute (logging) 5 per second (Modbus)	10 per second (Modbus Rate)
	Fastest SDI-12 output rate	1 per second	1 per second	1 per second
	Real-time clock	Accurate to 1 second/24-hr period (± 6 minutes/year)	Accurate to 1 second/24-hr period (± 6 minutes/year)	N/A
Pressure Sensor	Type / Material	Piezoresistive; ceramic	Piezoresistive; ceramic	Piezoresistive; ceramic
	Range (Absolute)	10.0m (32.8 ft) 20.0m (65.6 ft) 50.0m (164 ft), 100m (326 ft) 200m (656 ft)	0 to 16.7 psi; 0 to 1.15 bar	10.0m (32.8 ft) 20.0m (65.6 ft) 50.0m (164 ft), 100m (326 ft) 200m (656 ft)
	Range (Gauge)	10.0m (32.8 ft) 20.0m (65.6 ft) 50.0m (164 ft), 100m (326 ft) 200m (656 ft)	N/A	N/A
	Maximum pressure	Max 2x range, Burst 2.5x range	Max 2x range, Burst 2.5x range	Max 2x range, Burst 2.5x range
	Accuracy @ 15° C (See note 1)	±0.05% FS	±0.1% FS	±0.05% FS
	Accuracy (FS) (See note 2)	±0.1% FS	±0.2% FS	±0.1% FS
	Resolution	0.005% FS or 1mm whichever is greater	0.1mb	0.005% FS or 1mm whichever is greater
	Units of measure	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH2O, inH2O, Level: in, ft, mm, cm, m	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH2O, inH2O.	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH2O, inH2O, Level: in, ft, mm, cm, m
Temperature Sensor	Accuracy Resolution	±0.1° C 0.01° C	±0.1° C 0.01° C	±0.1° C 0.01° C
	Output Units	Celsius	Celsius	Celsius

Notes: 1) Across factory-calibrated pressure range at a constant temperature. 2) Across factory-calibrated pressure and temperature ranges

A little space for your notes

Jot down the products you are interested in and give us a call to discuss your requirements on +44 (0) 1843 600 030

Notes...

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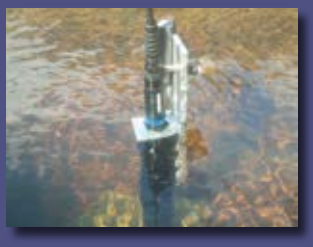
Notes...

AQUAREAD

water monitoring instruments



bsi.

ISO 9001 Quality Management FS621752

ISO 14001 Environmental Management EMS621753

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Aquaread® - Australia Trade Mark Registration No. 1436803
LeveLine® - Community Trade Mark Registration No. 011713823
Aquaprobe® - UK Trade Mark Registration No. 00003000628
Aquameter® - UK Trade Mark Registration No. 00003000627
LoggerLink® - UK Trade Mark Registration No. 3081814